Chemistry
Ticket Out the Door
Set 8 Atomic Structure

Name _____ Period _____

Skill 8.01 Exercise 1

A 101.96 g sample of a compound of aluminum and oxygen is 47.1% by mass oxygen.

What is the percent by mass of aluminum in this compound?

Of the 101.96 g of this compound, how many grams are aluminum?

Of the 101.96 g of this compound, how many grams are oxygen?

Skill 8.01 Exercise 2

Two compounds of iodine (I) and chlorine (Cl) are analyzed. Compound A consists of 126.9 g of I and 35.45 g of Cl. Compound B consists of 126.9 g of I and 106.4 g of Cl.

What is the percent composition of each element in compound A?

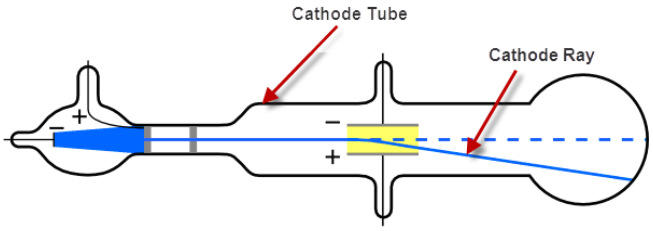
What is the percent composition of each element in compound B?

Skill 8.02 Exercise 1

Consider Dalton's laws. Which of his laws are still true today? Which are no longer true? Explain.

Skill 8.03 Exercise 1

The picture below depicts J.J. Thompson's Cathode Ray experiment. The solid line running through the tube shows the trajectory of a cathode ray in the tube. Which of the following is a conclusion that can be drawn from this experiment?



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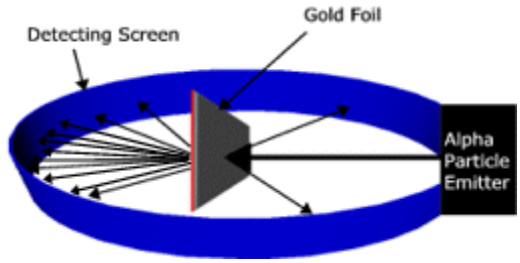
Rutherford's experiment measured scattering of positively charged alpha particles by a piece of gold foil. The arrows represent the deflected particles. Which of the following is a conclusion that can be drawn from this experiment?



Skill 8.04 Exercise 2

For the atom below, identify the element, the number of protons, and the number of electrons

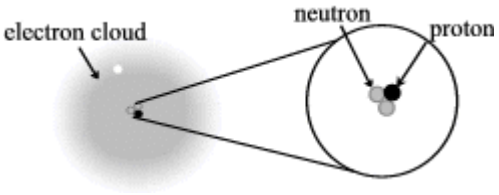
$^{209}_{82}X$

Skill 8.05 Exercise 1

For the atom below, identify the element, the number of protons, and the number of electrons

208
82 X

What is the approximate mass of the element shown?



Skill 8.06 Exercise 1

If atom A contains 18 protons and 22 neutrons, while atom B contains 18 protons and 20 neutrons, what can be concluded about atoms A and B?

Skill 8.07 Exercise 1

What do these have in common?

^{4}He $^{3}H^{+}$ $^{5}Li^{+}$